

India's two widest tunnels completed ahead of schedule

Afcons Infrastructure handed over 13.1 km long Igatpuri-Kasara Package 14 of Samruddhi to MSRDC three months ahead of schedule

RANJEET JADHAV
ranjeet.jadhav@mid-day.com

IN an important milestone, the 13.1 km leg of the Samruddhi Expressway between Thane and Nashik, officially known as Package 14, has been completed ahead of time. The project which includes the widest tunnels in India was handed over to Maharashtra State Road Development Corporation (MSRDC) by Afcons Infrastructure three months ahead of schedule.

Afcons Infrastructure's project manager Sekhar Das said, "Building Package 14 posed significant challenges, including constructing the widest tunnels (17.6 metres) in the nation and the longest road tunnel in the state. The 7.78 km twin tunnels run through the Igatpuri-Kasara ghat section, which experiences some of the highest rainfall in the state. Despite numerous obstacles, we successfully finished the project three

months ahead of schedule without any accidents."

The Package 14 of the Maharashtra Samruddhi Mahamarg is 13.1 km long which connects Pimpri Sadroddin in Nashik to Vashala Budruk in Thane. Besides the twin tunnel, the project comprises two viaducts, one interchange, a toll plaza, multiple cross passages and box culverts.

The company employed the New Austrian Tunnelling Method (NATM) technology for tunnelling. Interestingly, the inclined shaft can be used as an escape tunnel in an emergency.

"Each tunnel has three lanes. The tunnels are equipped with modern ventilation, firefighting, and safety systems. The tunnels also have a high-pressure water mist system for fire safety, a first in India," said Das.

It may be noted that most of the

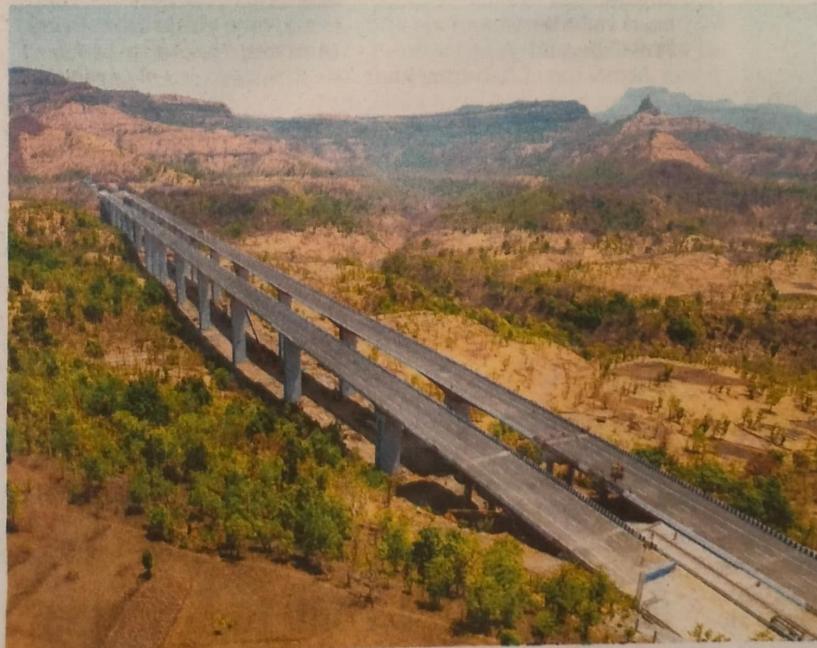
tunnelling works were executed under pandemic restrictions and lockdown between March 2020 and May 2021. The tunnel is specifically designed to mitigate the steep slope of the Kasara Ghat section and this was also done to avoid being in close proximity of Bhavli Dam, which could have led to complex geological issues.

Igatpuri falls in the highest rainfall zone in Maharashtra and during the monsoons the team faced unprecedented rainfall that threatened to impede the construction of the tunnel and Viaduct-II. "Working at a height of 60 metres in a valley facing strong winds and heavy rainfall was not easy. However, adequate safety measures were taken to complete the work on time," Das said.

The height was another challenge during the construction of Viaduct-II. The viaduct is a balanced cantilever bridge with a length of 1.2 km. There are 35 piers with the highest pier standing at 60 metres (equivalent of 20 storeys). There are 29 spans and the longest span measures 98 metres.



The 7.78 km wide twin tunnels running through the Igatpuri – Kasara Ghat section is widest tunnel in India with a width of 17.6 metres.



The 1.2 km long and 60 metres high viaduct bridge on the Thane-Nashik leg of the Samruddhi Expressway.

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Sekhar Das, project manager, Afcons Infrastructure

17.6
Metres wide
twin tunnel